ns := 500 BER := 0.01 NE := ns · BER

ne := 1,2.. 50

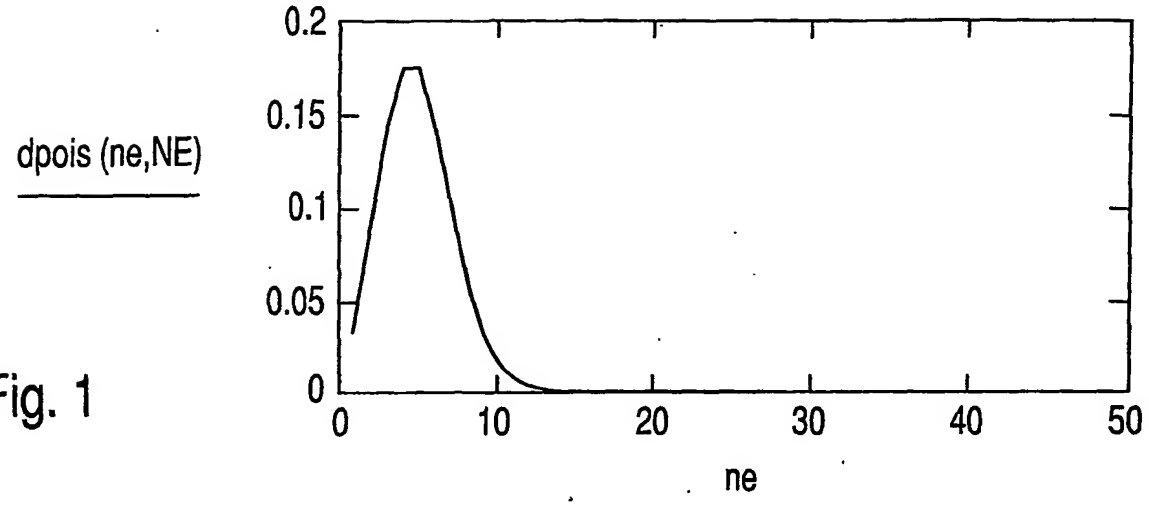

Fig. 1

ne := 15

D := .000085

NE_{low} := 0.5qchisq (D,2ne) NE_{low} = 4.56

NE_{high} := 0.5qchisq (1 - D,2ne) NE_{high} = 34.085

ni := 1,2.. 50

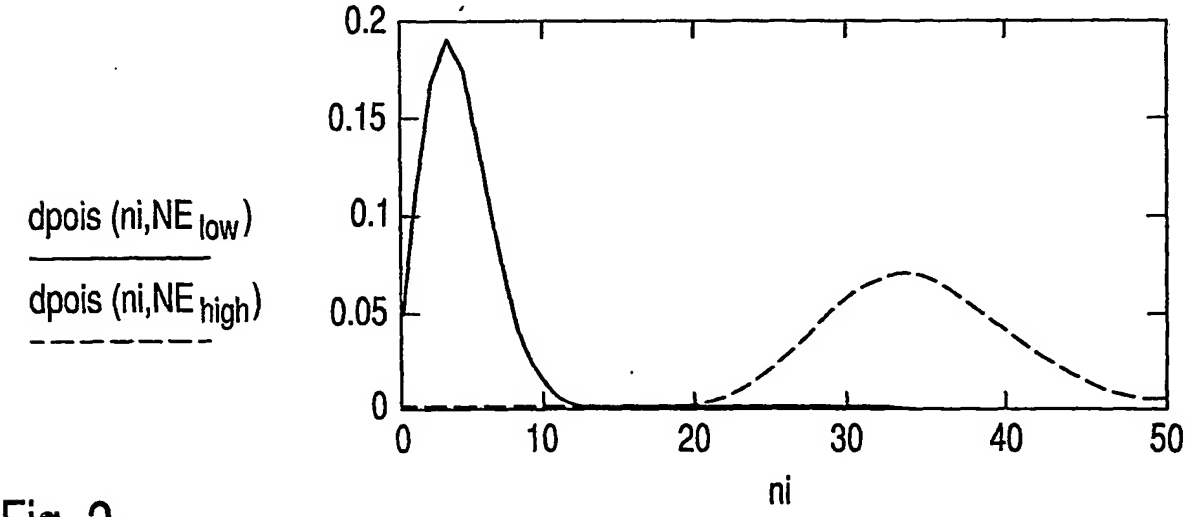

Fig. 2

$D := 0.000085 \quad ne := 1,2.. 1000$

$$bernormpass(ne,D) := \frac{2ne}{qchisq(1 - D, 2 \cdot ne)} \qquad bernormfail(ne,D) := \frac{2ne}{qchisq(D, 2ne)}$$

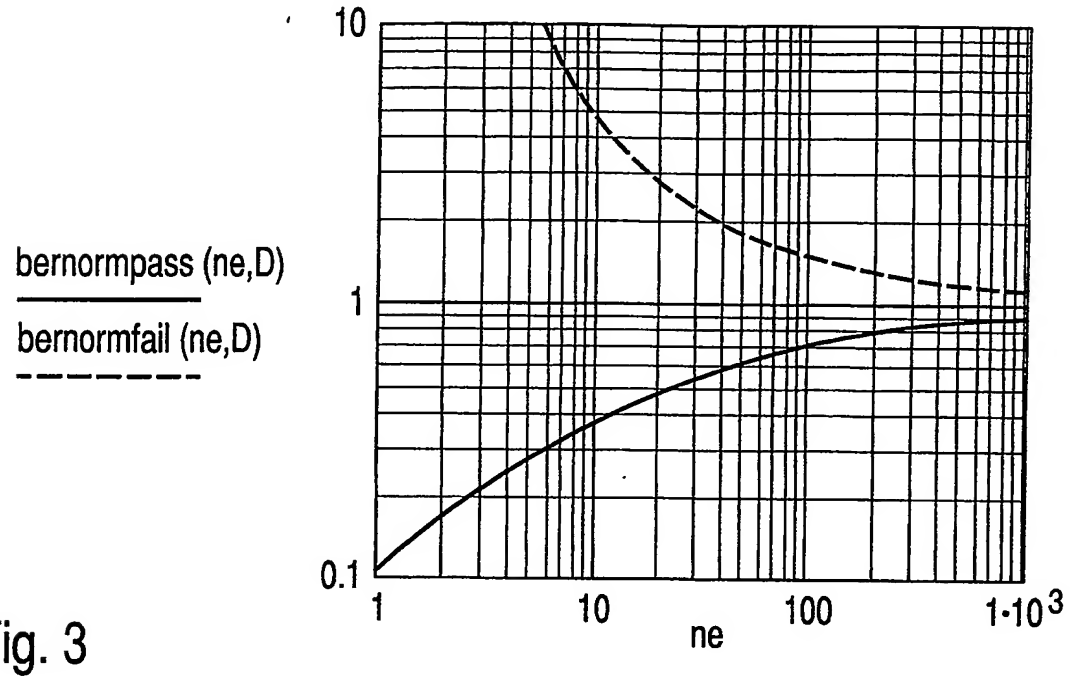

Fig. 3

$M := 1.5 \quad D := 0.000085 \quad ne := 1,2.. 1000$

$$berlimbad_{pass}(ne,D) := 2 \cdot \frac{ne}{qchisq(1 - D, 2 \cdot ne)} \cdot M \qquad berlim_{fail}(ne,D) := 2 \cdot \frac{ne}{qchisq(D, 2 \cdot ne)}$$

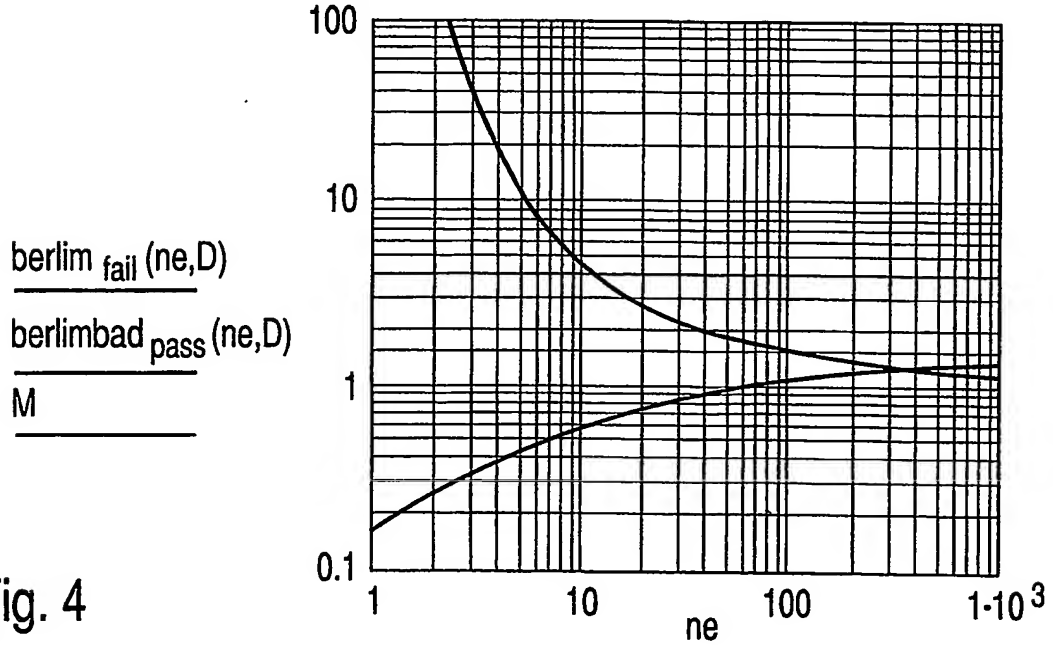

Fig. 4

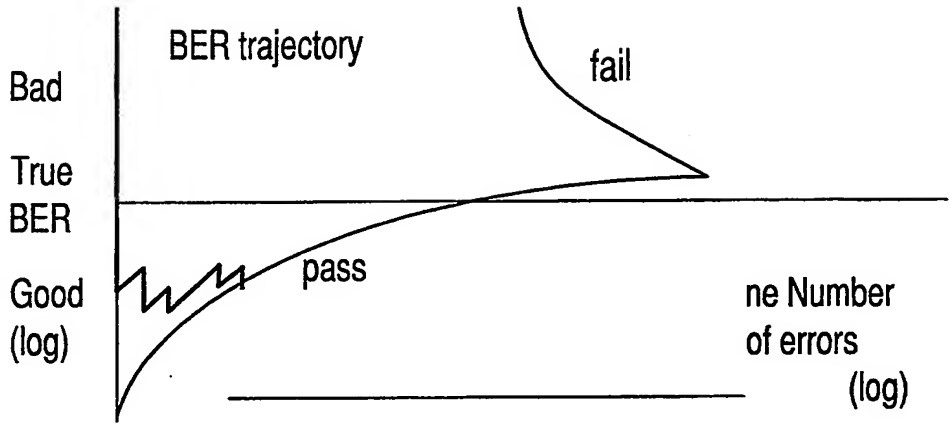
BER trajectory
fail
Bad
True
BER
Good
(log)
pass
ne Number
of errors
(log)

Fig. 5

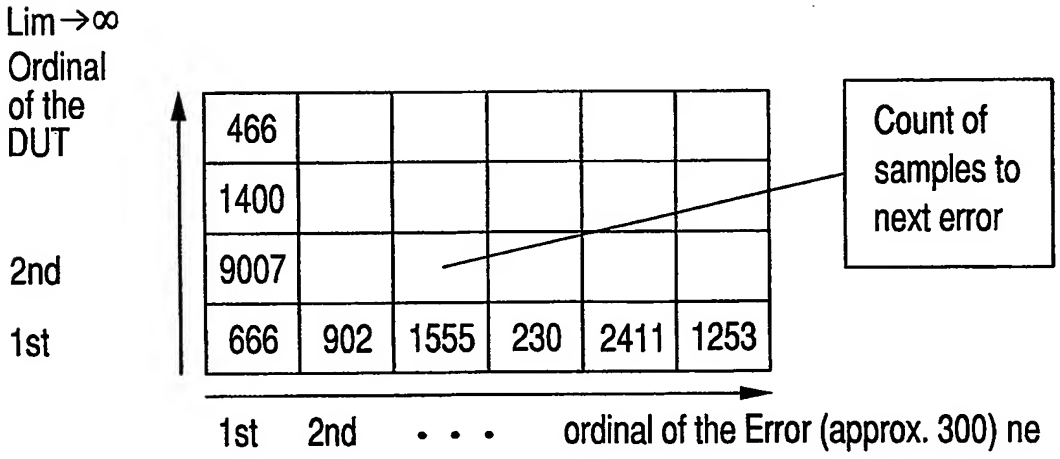
Lim→∞
Ordinal
of the
DUT
2nd
1st
466
1400
9007
666
902
1555
230
2411
1253
Count of
samples to
next error
1st
2nd
• • •
ordinal of the Error (approx. 300) ne

Fig. 6

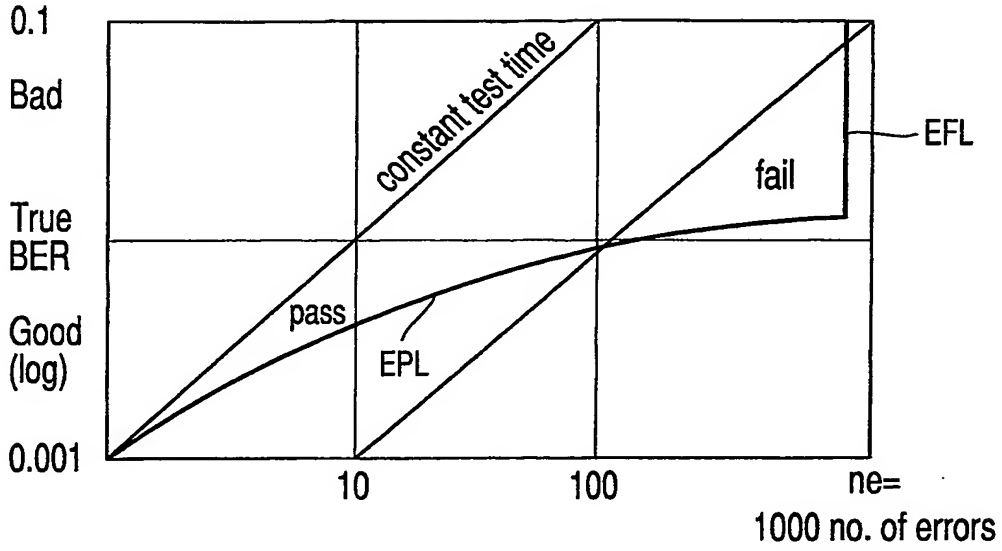
0.1
Bad
True
BER
Good
(log)
0.001
constant test time
fail
EFL
pass
EPL
10
100
ne=
1000 no. of errors

Fig. 7

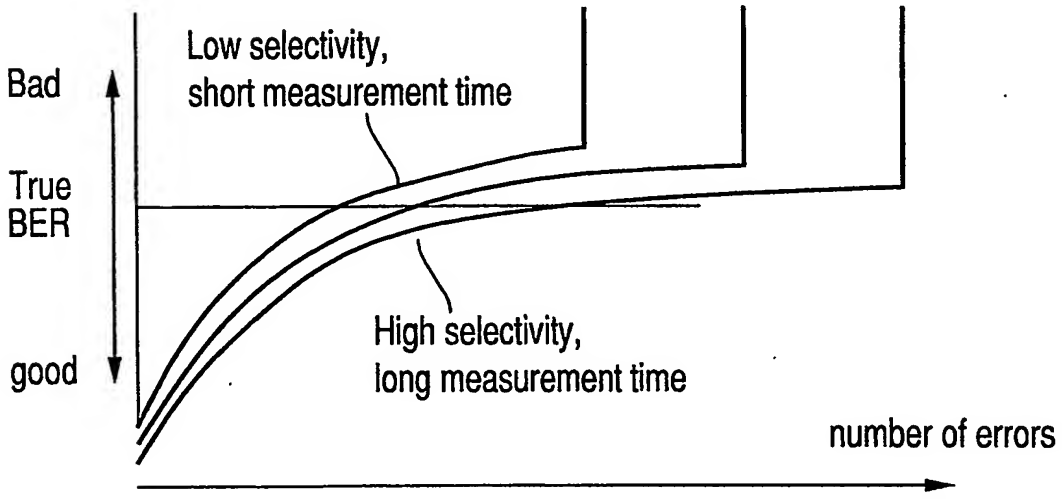
Bad
True
BER
good
Low selectivity,
short measurement time
High selectivity,
long measurement time
number of errors

Fig. 8

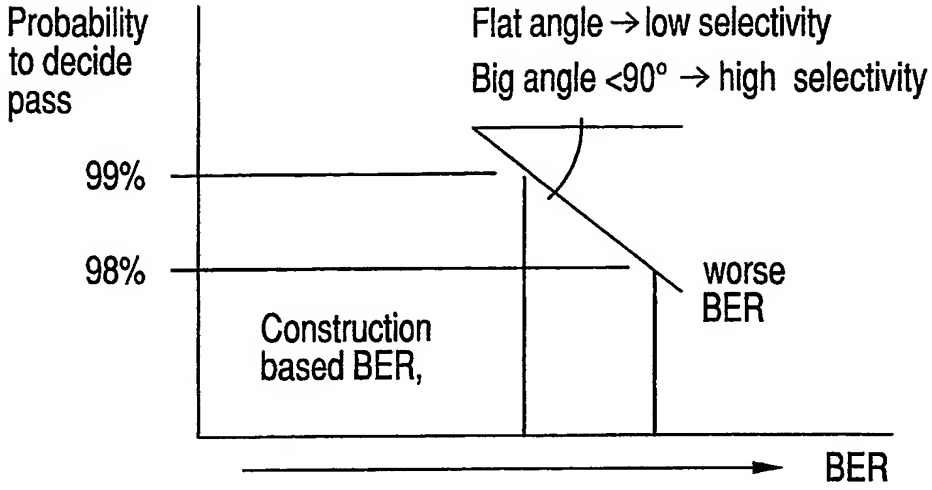
Probability
to decide
pass
Flat angle → low selectivity
Big angle <90° → high selectivity
99%
98%
worse
BER
Construction
based BER,
BER

Fig. 9

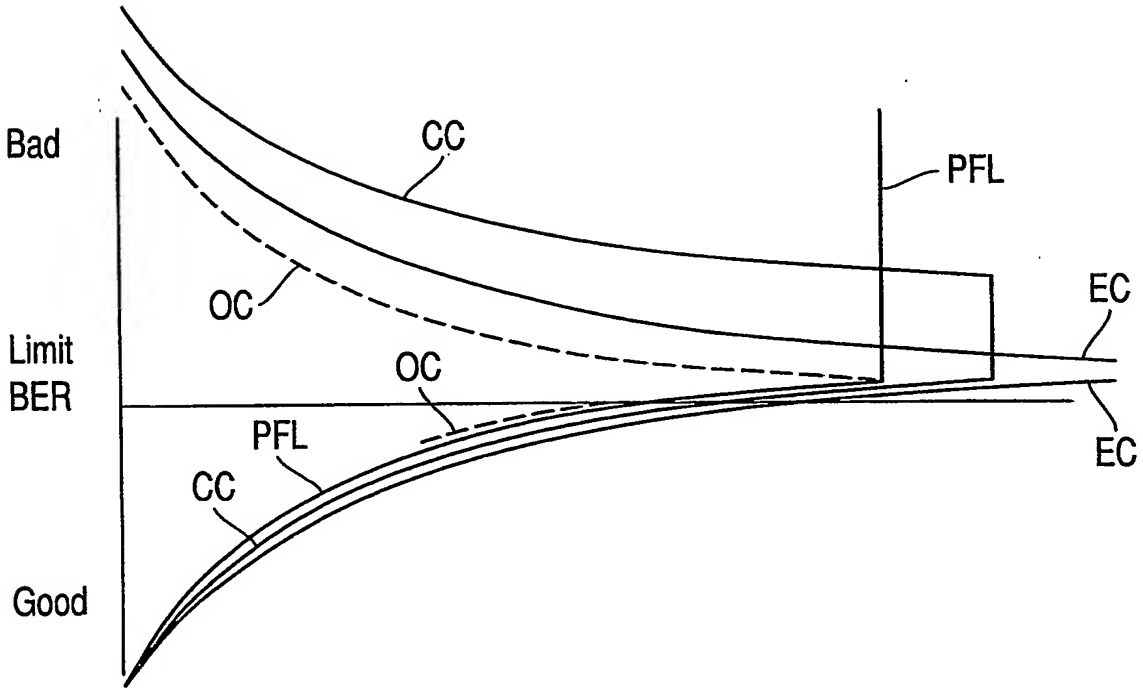
Bad
CC
PFL
OC
EC
Limit
BER
OC
PFL
CC
EC
Good

Fig. 10